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09/777,044	02/05/2001	Yasufumi Ichikawa	33241	8696

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EXAMINER

LELE, TANMAY S

ART UNIT	PAPER NUMBER
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2684

DATE MAILED: 04/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/777,044

Applicant(s)

ICHIKAWA, YASUFUMI

Examiner

Tanmay S Lele

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 12 January 2004, have been fully considered but they are not persuasive.

2. In response to applicant's argument that "there is no discussion of changing a control period of the transmission power control bit," a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Regarding claims 1 – 4 and 10 – 13, Applicant attempts to overcome the rejection by stating, "There is no discussion of changing a control period of the transmission power control bit," and further "Instead, Tiedemann is merely discussing a device such that a base station can sense a relative motion of a mobile station by monitoring a shift in the received signal (such as a Doppler shift) (see lines 18-22)." Note that it is respectfully believed Tiedemann does the claimed, "...a control period changing unit which changes a control period of the transmission power control bit," as broadly interpreted. Note that in Figure 3 and additionally, for example, page 11, lines 15 – 34, Tiedemann teaches of "...ignoring power adjustment requests and retains the same increased power level for the delay period" (page 11, lines 30 – 34). Here, the power control requests (and power control commands, noted in Tiedemann as being bits, for example

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starting page 4, line 38 and ending page 5, line 5 and again for example page 9, lines 33 -36 and page 9, lines 9 -22) are ignored as stated, during the delay period and thus the period over which initially assigned power control (via Tiedemann's commands) remains. Applicant correctly notes that Tiedemann teaches of Doppler shift, but it should be noted that Tiedemann more relates this to power control ("...the mobile generates the power control signal in accordance with the signal from the motion sensor," page 5, lines 13 -17; note that this additionally relates to Tiedemann's power control method as detailed starting page 11, line 35 and ending page 12, line 4, along with the discussion in the above cited sections). Hence because the Examiner is required to interpret the claims in the broadest reasonable manner under current examining practice, the Examiner is not persuaded by the Applicant's arguments that the references do not teach of recite the claimed as broadly interpreted.

3. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, with regards to claims 5,6,9,14,15, and 18, Applicant attempts to overcome the rejection by stating, "the Examiner has not provided the proper motivation for making the combination," and additionally, "The Examiner has not cited any portion of either reference to support any such suggestion or motivation for the combination." Examiner respectfully disagrees with Applicant's assertions that no motivation has been cited. Note that motivation for

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the combination does appear, for example, on page 4 of paper number 7, and additionally rational for the combination was obtained from the secondary reference (from the "Background of the Invention," which details the need for the invention, for example, column 2, lines 40 –42). Hence, Examiner is not persuaded by Applicant's assertion that the motivation is improper and further that the combination does not teach the recited as previously presented.

Regarding claims 7, 8, 16, and 17 Applicant attempts to overcome the rejection by stating, "Merely listing a benefit... is not sufficient to support ...obviousness." Examiner again respectfully disagrees with Applicant's assertion, as again, motivation for the combination was cited (on page 6 of paper 7, for example) and motivation again obtained from the tertiary reference (column 8, lines 8 –11 for example). Hence, Examiner is not persuaded by Applicant's assertion that the motivation is improper and further that the combination does not teach the recited as previously presented.

4. In response to applicant's argument that "Gilhousen does not teach any error selecting unit," a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

In regards to claims 7, 8, 16, and 17, Applicant attempts to overcome the rejection by stating, "However, the cited portions of Gilhousen do not teach any 'error selecting unit,'" and further "Instead, Gilhousen merely discusses error detection and correction coding," and lastly,

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“This does not suggest an ‘error selecting unit’ as recited in the claims.” Examiner respectfully disagrees with Applicant that Gilhousen does not teach of “an error selecting unit which selects an error occurred in an effective control section from the plurality of errors calculated over a plurality of control sections...” as broadly interpreted. Note Gilhousen additionally here teaches that “...the cell site processor may monitor average bit error,” (column 8, lines 6 –11) and further that this metric (which is measured over time), can be used to set link power level (via the power adjustment signal, as per column 7, lines 50 –58 and depicted in Figure 6). Applicant correctly notes that error correction coding and detection are used, but it should be noted that Gilhousen further notes that such processes are generally not used for power adjustment commands, due to the latency of the bits. Hence because the Examiner is required to interpret the claims in the broadest reasonable manner under current examining practice, the Examiner is not persuaded by the Applicant’s arguments that the references do not teach of recite the claimed as broadly interpreted.

5. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In regards to claims 7, 8, 16, and 17, Applicant further attempts to overcome the rejection by stating, “Further, Gilhousen does not teach any ‘matching unit.’” Note that as stated in the previous Office Action (paper number 7, page 6) Gilhousen was not cited for teaching of a “matching unit,” (assumed to be the “matching control unit”), Kasamatsu was cited as it was respectfully believed to meet these limitations (see paper 7, pages 5 and 6). Hence, Examiner is

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not persuaded by Applicant's arguments that the references do not teach or recite the claimed as currently presented.

(Note: the rejection from paper number 7 for claims 1-4, 6-13, and 15-18, has been copied below)

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 5 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 5 and 14 it was not understood what was meant by, "a matching unit which performs a matching operations of a characteristic of said second power amplifier *for input to said second power amplifier.*" For purposes of examination it was assumed that the matching circuit was required at the input of the matching circuit. Appropriate clarification if required.

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 5 and 14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

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Regarding claims 5 and 14, the limitations, "for input to said second power amplifier," was not specifically described in Applicants' specification. Applicant makes reference to the second amplifier and matching circuit (Figure 1, starting page 6 lines 20 and ending page 7 line 6, page 9, lines 13-22, for example), but not specifically at the "input to said second power amplifier" as claimed.

Claims 6-9 and 15 - 18 are rejected for at least those reasons as recited for independent claims 5 and 14.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1 - 4 and 10 - 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Tiedemann et al. (Tiedemann, World International Property Organization No 96/31,014).

Regarding claims 1 and 10, Tiedemann teaches of a wireless communication apparatus and method having a transmission power control function used to control transmission power of the own communication station by employing a transmission power control bit sent from a communication counter station to the own communication station (page 4, lines 6 - 18), comprising: a control period changing unit which changes a control period of the transmission power control bit (page 5, lines 6 - 25).

Regarding claims 2 and 11, Tiedemann teaches all the claimed limitations as recited in claims 1 and 10. Tiedemann further teaches of further comprising a transmission power control

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range changing unit which changes a transmission power control range corresponding to the transmission power control bit (starting page 4, line 34 and ending page 5, line 5 and page 12, lines 22 –25).

Regarding claims 3 and 12, Tiedemann teaches all the claimed limitations as recited in claims 1 and 10. Tiedemann further teaches of comprising a condition detecting unit which detects a condition of the own communication station and a condition of the communication counter station, wherein said control period changing unit changes the control period based upon the detected condition (page 5, lines 13 – 25).

Regarding claims 4 and 13, Tiedemann teaches all the claimed limitations as recited in claims 2 and 11. Tiedemann further teaches of comprising a condition detecting unit which detects a condition of the own communication station and a condition of the communication counter station (page 5, lines 13 – 25), wherein said control period changing unit changes the control period based upon the detected condition (page 5, lines 13 – 25), wherein said transmission power control range changing unit changes the transmission power control range based upon the detected condition (starting page 4, line 34 and ending page 5, line 5 and page 12, lines 22 –25).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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13. Claims 5,6, 9, 14, 15, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kasamatsu (Kasamatsu, US Patent No. 5,852,770) in view of Cygan et al. (Cygan, US Patent No. 5,64,086) and in further view of Tetsuaki (Tetsuaki, Japanese Patent Application No. 07-020790).

Regarding claims 5 and 14, Kasamatsu teaches of a wireless communication apparatus and method having a transmission power control function used to control said transmission power (column 2, lines 44 – 49), comprising: a first power amplifier and a second power amplifier which amplify transmission power transmitted from the own communication station to the communication counter station (Figures 2, 6, 7, and 8); a power amplification control unit which controls a gain of said first power amplifier (Figure 2 and starting column 3, line 46 and ending column 4, line 4).

Kasamatsu does not specifically teach of a matching unit which performs a matching operation of a characteristic of said second power amplifier; and a matching control unit which controls said matching unit.

In a related art dealing with enhancement of radio transmitter performance, Cygan teaches of a matching unit which performs a matching operation of a characteristic of said second power amplifier (Figure 1 and starting column 2, line 55 and ending column 3, line 6); and a matching control unit which controls said matching unit (Figure 1 and starting column 2, line 55 and ending column 3, line 6).

It would have been obvious to one skilled in the art at the time of invention to have included into Kasamatsu's power control system, Cygan's variable matching network, for the

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purposes of enhancement of operating characteristics of a linear transmitter without the use of an isolator, as taught by Cygan.

Kasamatsu in view of Cygan do not specifically teach of for input to said second power amplifier (though it should be noted simultaneous conjugate matching on the input and output of amplifiers is well known in the art).

In a related art dealing with linear power amplifiers in radio equipment, Tetsuaki teaches of for input to said second power amplifier (Figure 1, Constitution, paragraph 22).

It would have been obvious to one skilled in the art at the time of invention to have included into Kasamatsu and Cygan's linear amplification power control system, Tetsuaki's input matching, for the purposes of improving isolation without losing the amplifier's linearity, as taught by Tetsuaki.

Regarding claims 6 and 15, Kasamatsu in view of Cygan and Tetsuaki, teach all the claimed limitations as recited in claims 5 and 14. Kasamatsu further teaches of comprising: a transmission power detecting unit which detects transmission power of the own communication station (Figure 2 and starting column 3, line 47 and ending column 4, line 13); a transmission power correcting unit which corrects the detected transmission power in response to a communication condition of the own communication station (Figure 2 and starting column 3, line 47 and ending column 4, line 13); and an error calculating unit which calculates an error between the corrected transmission power and target transmission power (column 5, lines 30 – 46), wherein said power amplification control unit executes the control operations thereof based upon the calculated error (column 5, lines 30 – 46) and Cygan further teaches of wherein said

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matching control unit executes the control operations thereof (starting column 4, line 65 and ending column 5, line 14).

Regarding claims 9 and 18, Kasamatsu in view of Cygan and Tetsuaki, teach all the claimed limitations as recited in claims 6 and 15. Kasamatsu further teaches of comprising: a correction amount calculating unit which calculates a correction amount based upon the error (Figure 2 and starting column 3, line 46 and ending column 4, line 4); and a correction amount limiting unit which limits the calculated correction amount (Figure 2 and starting column 3, line 46 and ending column 4, line 4 and further in column 4, lines 40 – 65 and further provisions in column 5, lines 58 – 67 and column 6, lines 1 – 12), wherein both said power amplification control unit executes the control operations based upon the limiting correction amount and Cygan further teaches of wherein said matching control unit executes the control operations thereof (starting column 4, line 65 and ending column 5, line 14)

14. Claims 7, 8, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kasamatsu (Kasamatsu, US Patent Mp. 5,852,770) in view of Cygan et al. (Cygan, US Patent 5,64,086) and Tetsuaki (Tetsuaki, Japanese Patent Application No. 07-020790) as applied to claim 6 and 15 above, and further in view of Gilhousen et al (Gilhousen, US Patent No 5,056,109).

Regarding claims 7 and 16, Kasamatsu in view of Cygan and Tetsuaki, teach all the claimed limitations as recited in claims 6 and 15. Kasamatsu further teaches of wherein said power amplification control unit executes the control operations thereof based upon the error (column 5, lines 30 – 46) and Cygan further teaches of wherein said matching control unit executes the control operations thereof (starting column 4, line 65 and ending column 5, line 14).

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Kasamatsu in view of Cygan and Tetsuaki do not specifically teach of further comprising an error selecting unit which selects an error occurred in an effective control section from the plurality of errors which are calculated over a plurality of control sections.

In a related art dealing with power control, Gilhousen teaches of further comprising an error selecting unit which selects an error occurred in an effective control section from the plurality of errors which are calculated over a plurality of control sections (Figure 6 and Column 7, lines 36 –58 and further in column 8, lines 6 – 11).

It would have been obvious to one skilled in the art at the time of invention to have included into Kasamatsu and Cygan and Tetsuaki's power control system, Gilhousen's multiple measurements (and hence possible error points), for the purposes of obtaining an average value of errors to assure an acceptable quality communications link, as taught by Gilhousen.

Regarding claim 8 and 17, Kasamatsu in view of Cygan, Tetsuaki and Gilhousen, teach all the claimed limitations as recited in claims 7 and 16. Kasamatsu further teaches of wherein said power amplification control unit executes the control operations thereof based upon the error (column 5, lines 30 – 46) and Cygan further teaches of wherein said matching control unit executes the control operations thereof (starting column 4, line 65 and ending column 5, line 14) and Gilhousen further teaches of comprising an error averaging unit which averages the selected error (column 8, lines 6 –11).

Citation of Pertinent Prior Art

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Inventor	Publication	Number	Disclosure
Dobrica	US Patent	6,070,086	Closed Loop Power

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			Transmitter Power Control Unit for CDMA Cellular System
Meyer	US Patent	6,049,251	Wide Dynamic Range Variable Amplifier
Kim	US Patent	6,020,795	Electronically Controllable Impedance Matching Device for Use in RF Amplifier
Butovitsch et al.	WIPO	98/56200	Modified Downlink Power Control Macro-Diversity

Conclusion

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tanmay S Lele whose telephone number is (703) 305-3462. The examiner can normally be reached on 9 - 6:30 PM Monday – Thursdays and on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

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supervisor, Nay A. Maung can be reached on (703) 308-7745. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.


Tanmay S Lele
Examiner
Art Unit 2684

tsl
April 1, 2004


NAY MAUNG
SUPERVISORY PATENT EXAMINER